Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1.   (Currently Amended) A system development method comprising:

a step of inputting program descriptions which define a plurality of devices by employing a Java program language capable of describing parallel operations;

a step of converting the input program descriptions into an intermediate expression;

a step of generating parameters which satisfy a real-time restriction, for the intermediate expression; and

a step of synthesizing circuit descriptions which are based on a hardware description language, on the basis of the generated parameters;

wherein the program descriptions define the devices on a single bus by using a run method of the Java program language, and define clock synchronizations of the device by using barrier synchronizations,

wherein in the run method, program codes which are to be executed in a thread constituting a multi-thread are described,

imposing an inhibition of dynamic instantiation restriction and an inhibition of a start method call from the run method restriction on the program descriptions by employing a Java program language,

wherein the intermediate expression comprises a ~~is a member selected from the group consisting of a concurrent control flow flag, a~~ temporal automaton ~~with a concurrent~~

~~parameter, and a temporal automaton with parameters,~~ and a concurrent control flow flag

generated by expressing the start of the "synchronized" operation as a node which is labeled

as "Begin sync" and the end thereof as a node which is labeled as "End sync",

wherein the temporal automaton is converted from the concurrent control flow flag in

which a part held between description the "Begin sync" and the "End sync" are identified, and

is set as a "sync" block, a clock boundary node which does not exist in the "sync" block is set

as a state allotment candidate, and

wherein parametric model checking is performed for the parameter generation~~, and~~

~~wherein the real-time restriction is given by RPCTL~~.

2. – 5.   (Canceled)

6.   (Currently Amended) A data processing system comprising:

a computer;

said computer inputting program descriptions which define a plurality of devices by

employing a Java program language capable of describing parallel operations, converting the

input program descriptions into an intermediate expression, generating parameters which

satisfy a real-time restriction, for the intermediate expression, and synthesizing circuit

descriptions which are based on a hardware description language, on the basis of the

generated parameters;

wherein the program descriptions define the devices on a single bus by using a run

method of the Java program language and define clock synchronizations of the devices by

using barrier synchronizations;

wherein in the run method, program codes which are to be executed in a thread

constituting a multi-thread are described,

wherein restrictions are imposed on the program descriptions which are an inhibition

of dynamic instantiation restriction and an inhibition of a start method call from the run

method restriction by employing a Java program language,

wherein the intermediate expression ~~is a member selected from the group consisting~~

~~of a concurrent control flow flag, a temporal automaton with a concurrent parameter, and~~

comprises a temporal automaton ~~with parameters~~ and a concurrent control flow flag generated

by expressing the start of the "synchronized" operation as a node which is labeled as "Begin

sync" and the end thereof as a node which is labeled as "End sync",

wherein the temporal automaton is converted from the concurrent control flow flag in

which a part held between description the "Begin sync" and the "End sync" are identified, and

is set as a "sync block", a clock boundary node which does not exist in the "sync" block is set

as a state allotment candidate, and

wherein parametric model checking is performed using the temporal automaton for

the parameter generation~~, and~~

~~wherein the real-time restriction is given by RPCTL~~.

7.   (Canceled)